CP-255DN

PC/HD to 1080p DVI Scaler Box

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Operation Manual

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE

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1. INTRODUCTION

Congratulations on your purchase of the Cypress Video Scaler CP-255DN. Our professional Video Scaler products have been serving the industry for many years.

In addition to Video Scalers, Cypress offers a full line of high quality PC multimedia, Standard Converters, Video Mixer, Time Base Correctors, Video Processors, and HDMI/DVI devices.

Please visit www.cypress.com.tw to learn more details about these products. This manual includes operation information on the CP-255DN model. Please read this to become familiar with the CP-255DN and keep the manual for possible reference in the future.

Cypress's CP-255DN is designed to convert PC, SD, HD and DVI to digital DVI at a variety of HDTV and PC resolutions. It handles input and output signal at 165MHZ ultra high bandwidth. Cypress CP-255DN has many great features to enhance video performance and is ideal for use in professional large screen presentation.

2. FEATURES

- CP-255DN is a high bandwidth and professional PC/Component/DVI to DVI Scaler that accepts PC RGB (up to WUXGA), HD Component (480i up to 1080p) and DVI (up to WUXGA) and scale them up to DVI-I output (1080p/WUXGA).
- The input to the CP-255DN is analog PC or HDTV signal in the format of either RGBHV, YPbPr, (YCbCr) or digital DVI.
- The output of the CP-255DN is digital DVI plus analog PC/HD with selectable output resolution from 480i to 1080p and VGA to WUXGA.
- The input resolution is automatically detected while the output resolution and refresh rate can be selected through OSD menu or front panel push buttons.
- Native output resolution ensures most optimal display resolution on your screen. When "Native" is selected as the output resolution, the CP-255DN will automatically detect the native resolution of the display and send out the most optimal pixel timing to match TV's final display resolution.
- Output picture adjustment on brightness, contrast, color, RGB level, and H-V position.
- The DVI input is HDCP compliant which means if input is HDCP encrypted then DVI output is also HDCP encripted. In this case the

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PC analog output will be turned off.

- Includes advanced features such as Noise Reduction and overscan/underscan adjustment.

3. WHAT'S INCLUDED

The following items are included in the standard package.

- PC/HD/DVI to DVI scaler box.
- VGA cable x 1
- YPbPr 3RCA cable x 1
- AC power adaptor 5V/ 2.6A, center positive.

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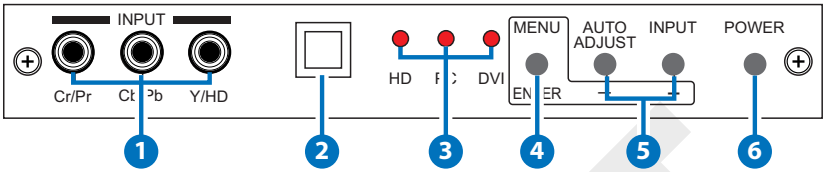
4. OPERATION CONTROLS AND FUNCTIONS

4.1 Front Panel



1. **Component Input:** Connects this input connector to the Component output connector of your source equipment using the enclosed 3RCA to 3RCA cable.

   The CP-255DN accepts both interlaced component input (480i, 576i) and deinterlaced progressive input (480p, 576p...1080p).

   The input range is 480i, 570i~1080i, 1080p.

2. **IR Sensor:** Infrad remote control sensor.

3. **Input LED Indicators:** When one of the LED illuminates its corresponding source is being selected as input.

4. **Menu/Enter:** This button serves two purposes.

   a. Press the button to bring up OSD main menu as shown in the "OSD Operation". (page 9)

   b. To act as a "Enter" key to enter sub menu or to adjust setting value of the selected parameter.

5. **+/- button:** The buttons provide 3 functions:

   a. Input select ("+"): Press the "+" button repeatedly to select your desired input source. The input sources are toggled through in the following sequence.

   YPbPr (YCbCr) → PC → DVI

   b. Auto Tune ("-"): Press the "-" button to carry out picture auto adjust for analog inputs (component or PC). The CP-255DN will fine tune the position (centering) and color of the output picture.

   c. When in the OSD menu mode: Press the +, - button to move up or down the highlight bar to your desired parameter. Or once a parameter is selected with MENU/Enter button, press the button to

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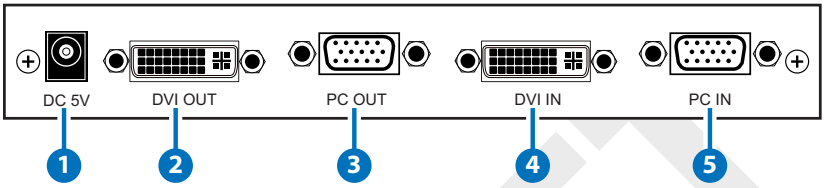
adjust setting value of your selected parameter.

6 **Power:** Press the button to turn ON or turn OFF (standby) the power of the unit.

4.2 Rear Panel



1 **Power jack:** Connect to the 5V 2.6A DC power adaptor.

2 **DVI output:** Scaled digital DVI output. Connect this output to the DVI input or HDMI input of your Digital display.

Note: When input is a HDCP encrypted DVI signal the DVI output is also HDCP

encrypted. The monitor/display that connected to this output also need to be HDCP compliant in order to get a nice and clean picture. A non-HDCP compliant display can only display non-HDCP signal and picture will become noise when input is a HDCP-encrypted signal.

3 **PC-D sub out:** The connector for scaled analog RGB output.

Connect this output port to the analog PC RGB input of your monitor, or connect it to the RGBHV input of your HD display using D-sub to 5 BNC adaptor cable. (not included in the package)

Note: When input is a HDCP encrypted DVI signal this analog output will be turned off.

4 **DVI input:** Connects this DVI input connector to the DVI output connector of your DVI source equipment. The DVI input should be digital DVI only and should not include analog RGB signal.

The use of DVI-I connector is to ensure both DVI-I and DVI-D male connector of the DVI cable can fit into this input connector. The digital DVI input resloution can range from 480i~1080p, or VGA~WUXGA.

5 **PC input:** Connects this PC input connector to the VGA output of your PC. The acceptable PC resolutions range from VGA~WUXGA.

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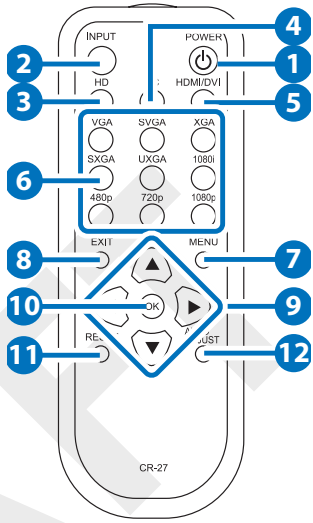
4.3. Remote Control and functions



1. **Power:** Press the button once to power on the CP-255DN. Press again to enter standby mode.
2. **Input:** Press the button repeatedly to toggle through various input sources as follows.

   → Component → PC → DVI →
3. **HD input:** Press the button to select component input.
4. **PC input:** Press the button to select PC input.
5. **HDMI/DVI input:** Press the button to select DVI (or HDMI) input.
6. **Output resolution:**

   Select buttons: Press any one of the button to directly select output resolution.

   For other output resolutions that are not covered by these buttons please enter Menu/Output page to select them.
7. **MENU:** Press the button to bring up OSD main menu page.
8. **Exit:** Press the button to exit from a sub menu or main menu.
9. **Up/Down/Left/Right:**

   Press the Up/Down button to move the highlight bar to your desired parameter during the OSD operation.

   Press the Left/Right button to increase/decrease the setting value of a selected parameter.
10. **OK (Enter):** Press the button to confirm your selection.
11. **Reset:** Press the button to reset the unit's firmware setting to the factory default value.
12. **Auto Adjust:** Press the button to optimize the position of the picture (picture centering) on the screen.

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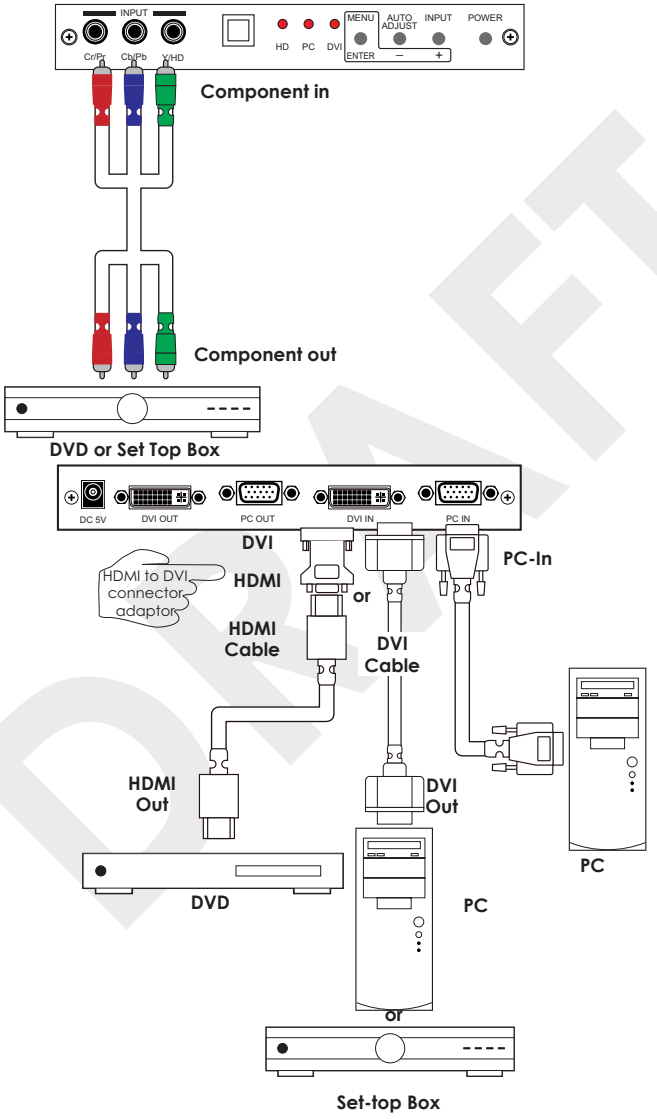
5. INSTALLATION

Input Connection



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The CP-255DN accepts component, PC and DVI inputs. The formats supported by these inputs are as follows:

- When connecting to a PC source use a 15-pin D-sub cable to connect the
- output of a PC to the D-Sub input connector of the CP-255DN.
- When connecting to a component source (either SD or HD resolution) use a
- 3RCA to 3RCA cable to connect the YPbPr or YCbCr output of a DVD or Set Top Box to the Y-Cb/Pb-Cr/Pr input connecter of the CP-255DN.
- When connecting to a DVI source, use a DVI-I or DVI-D cable to connect the
- DVI output of a PC or DVD to the DVI input connector of the CP-255DN.
- When connecting to a HDMI source, use a HDMI cable to connect to the HDMI output of a HDMI source, such as DVD or STB, on the one end.

And use a HDMI to DVI connector adaptor to connect to the other end of the HDMI cable. The DVI connector of the adaptor is then connect to the DVI input of the CP-255DN.

The CP-255DN can automatically detect the input resolution of all three inputs. To switch from one input source to another just press the input button on the front panel ("+") or on the remote control.

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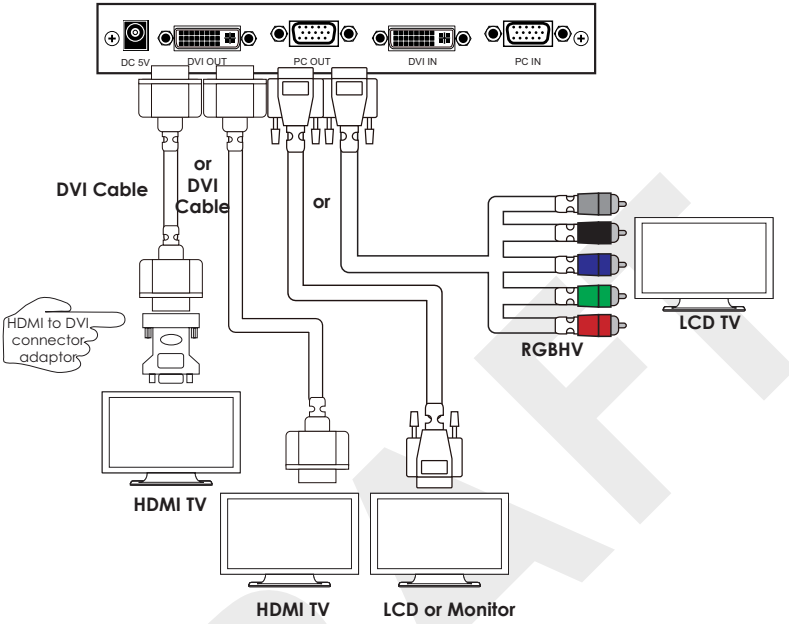
Output Connection



The CP-255DN can output a variety of PC, SD and HD resolutions in both digital and analog format simultaneously. The digital output is available from the DVI output connector while the analog output is available from the PC D-sub output connector.

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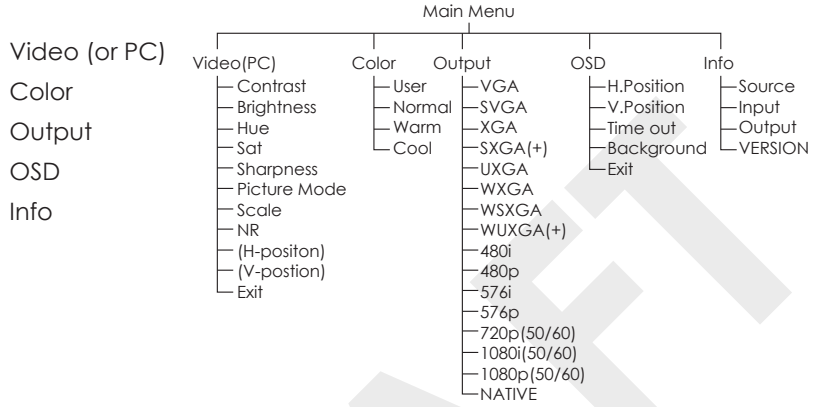
6. OSD OPERATION

After power on the unit, press the "menu" button will bring up the main menu as follows:



Use +, - button to move hightlight bar to your desired parameter, then press MENU/ENTER to enter into sub-menu of your selected parameter.

6.1 Video (or PC)

When Video is selected a sub menu as below comes up.

Contrast
Brightness
Hue
Saturation
Sharpness
Picture Mode
- user
- standard
- vivid
- movie

Scale
- overscan
- underscan
- Letterbox
- Panscan
- Full

NR
- low
- middle
- high
- off

H-position (PC)
V-position (PC)
Exit

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Note (PC): Available only when PC is selected as input.

To adjust picture quality, Use "+,-" to move the highlight bar to your desired adjust item, press the Menu/Enter to confirm your selection.

At this point, the selected parameter will turn red, you can then use +,- to increase or decrease the value of the parameter.

When adjustment is complete, press "Menu" to leave the parameter. Move the highlight bar to "Exit", then press Menu/Enter to exit.

Note: The "H-position" and "V-position" are only available when component or PC input is selected. Neither are available when the DVI input is selected.

Picture mode-there are 4 picture modes for customer to choose from.

User: Select to adjust to your favorite setting and store it.

Standard: Standard factory default setting for optimal display in a normal environment.

Vivid: High saturation picture for optimal display in a bright room.

Movie: Picture for comfortable low brightness display in a dark room.

Scale: select overscan when input source is SD or HD video to ensure no black band around screen border. Select underscan when input source is PC signal to ensure full picture content fall within screen border.

Noise Reduction: This function only works when input is analog RGB or component. It will not work for DVI input. There are four steps of Noise Reduction-Off, Low, Middle High. The Noise Reduction will remove the noise that results from analog to digital convertion and digital scaling processing.

H & V position: To adjust for best horizotal and vertical position of the picture in the screen.9. Specifications

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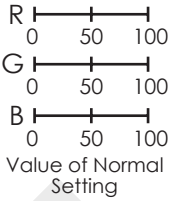
6.2 Color

User: Select to adjust to your favorite color temperature setting.

Normal: Normal color tone setting where white is pue white.

Warm: Warm color tone makes white reddish.

Cool: Cool color tone makes white bluish.



6.3 Output

The CP-255DN can output a wide variety of PC and HD resolutions. Refer to product specifications.

6.4 OSD Adjust

H.Position: Adjust the horizontal position of the OSD graphic.

V.Position: Adjust the vertical position of the OSD graphic.

Time out: Set a predetermined time to turn off OSD menu on the screen.

Background: To select transparent or solid background of OSD graphic.

6.5 Information

Source: Show product model number.

Input: Show input resolution i.e XGA.

Output: Show output resolution i.e 720p.

VERSION: Show date of firmware version.

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7. SPECIFICATIONS

HDMI Compliant

Input format (Up to 165MHz)

Resolution	INPUT		
	Component	D-SUB	DVI/HDMI
480i/576i	V		*
480p/576p	V	V	V
720p@(60/50)	V	V	V
1080i@(60/50)	V		V
1080p@(60/50)	V	V	V
VGA@(60/72/75/85)		V	V
SVGA@(56/60/72/75/85)		V	V
XGA@(60/70/75/85)		V	V
SXGA@(60/75/85)		V	V
UXGA@60		V	V
WXGA@60(1280X800)		V	V
WSXGA@60(1680X1050)		V	V
WUXGA@60(1920X1200)		V	V

* 480i 30x2 / 576i 25x2

Output format (Up to 165MHz)

Resolution	OUTPUT	
	D-SUB	DVI/HDMI
480i/576i	*	*
480p/576p	V	V
720p@(60/50)	V	V
1080i@(60/50)	V	V
1080p@(60/50)	V	V
VGA@(60/72/75/85)	V(@60)	V(@60)
SVGA@(56/60/72/75/85)	V(@60)	V(@60)
XGA@(60/70/75/85)	V(@60)	V(@60)
SXGA@(60/75/85)	V(@60)	V(@60)
UXGA@60		V(@60)
WXGA@60(1280X800)	V	V
WSXGA@60(1680X1050)		V
WUXGA@60(1920X1200)		V

* 1440x480 / 1440x576

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Input connectors	YCbCr/YPbPr x 1 via 3 RCA jack PC RGB x 1 via 15 pin D-sub DVI x 1
Output connector	DVI x 1 PC 15 pin D-sub x 1
Dimension	180(W)x132(D)x25(H)mm
Weigh	452g
Power Supply	DC 5V 2.6 Amp

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